

REMARKS

Claims 1-17, 19 and 20 are now pending in the application. Minor amendments have been made to the claims to overcome the objections to the claims and rejections under 35 U.S.C. § 112. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

In response to specific objections presented by the Examiner, Claims 8, 9 and 11 have been amended to remove the period found after the word "of" in each of the claims. Claim 18 has been cancelled as being duplicative of claim 16.

REJECTION UNDER 35 U.S.C. § 112

Claims 2-4 and 15 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

Claims 3 and 4 have been amended; the term "multi-dimensional array" has been changed to "coupled fiber reinforcement structure," antecedent basis for which can be found in claim 1.

Claims 2 and 15 have been amended to address Examiner's rejection regarding the use of "capable."

Withdrawal of the rejections under 35 U.S.C. § 112, and reconsideration and reexamination of the claims, is respectfully requested.

REJECTION UNDER 35 U.S.C. § 102

Claims 1, 2, 5-6, 10-11 and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Segal et al. (U.S. Pat. No. 3,920,879). This rejection is respectfully traversed.

It is well understood that for a claim to be anticipated by a reference, each and every limitation of the claim must be disclosed by the reference. Segal et al. discloses an extremely low molecular weight polymer in a composite which is formable in a mold at ambient temperatures. By reinforcing the polymer with long glass fibers, the composite can be preheated outside of the mold. According to column 4, lines 33 and following, "the coherency of the preheated sheet can be retained by using a nonwoven fibrous phase, e.g., nonwoven mat, woven cloth, intertwined fibers, or agglomerated long glass fibers held together by adhesive resinous binders or mechanically bound by stitching. ***This is in contrast to short chopped fiber reinforcement which possesses no integral coherent structural strength.*** (emphasis added)" This last sentence refers back to column 3, lines 37 and following, which indicates that conventional production techniques, such as extrusion and injection molding, through necessity use short fibers because long fibers would be destroyed by the process. At column 3, lines 57-63: "It is an integral part of this invention that the fibrous reinforcement be present in lengths of 2 inches or longer in order to compensate for the lower mechanical properties and cohesive strength of the low molecular weight polyamide resins and in order to form a coherent reinforcing structure during the pre-heat stage of our processing method."

Claim 1 of the instant application requires a composite material comprising a matrix phase and a coupled fiber reinforcement structure formed of at least one high aspect ratio fiber, wherein the coupled fiber reinforcement structure has an aspect ratio of less than ten.

Segal does not disclose that a coupled fiber reinforcement structure has an aspect ratio of less than ten. Examiner states in the Office Action regarding the teaching of Segal et al.: "Using glass fibers in a polyamide resin would produce an aspect ratio of less than 5, as this is a physical property of the fibers in the resin matrix. Therefore, this feature is inherent." Applicants find no support for this assertion in the reference or in the field of the invention. If a reference does not disclose a feature of a claim, the claim cannot be anticipated by the reference. Because Segal does not disclose the feature of the coupled fiber reinforcement structure having an aspect ratio of less than ten, Segal cannot anticipate claim 1. Claim 1 is therefore allowable over Segal. Claims 2, 5-6 and 10-11, all of which depend either directly or indirectly from claim 1, are allowable for the same reason that claim 1 is allowable. Withdrawal of the rejection of Claims 1, 2, 5-6 and 10-11 over Segal, and reconsideration and reexamination of the claims, is respectfully requested.

The rejection of claim 16 over Segal et al., without the rejection of claim 15, doesn't make any sense. Nonetheless, claim 15 is allowable over Segal for the same reason claim 1 is allowable over Segal. Claim 15 requires a coupled fiber reinforcement structure having an aspect ratio of less than ten, which is not disclosed by Segal et al. Because claim 15 is allowable over Segal et al., claim 16 is allowable for the same reason. Withdrawal of the rejection of claim 16, and the unstated rejection of claim 15, and reconsideration and reexamination of the claims, is respectfully requested.

Examiner asserts, in the context of rejecting the claims over Segal et al., that "Claims 5 and 16 are product by process claims." They are not. The use of the word by in the claim does not by itself make the claims "product by process." However, for the

purpose of clarification, claims 5 and 16 have been amended, substituting "comprises" for "is formed by" in each claim.

Claims 1, 5-7, 9 and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Moghe et al. (U.S. Pat. No. 5,127,783). This rejection is respectfully traversed.

As previously stated, for a claim to be anticipated by a reference, each and every element of the claim must be disclosed by the reference. As with the rejection over Segal et al., the Examiner has stated regarding the teaching of Moghe et al.: "Using carbon fibers in a polyimide resin would produce an aspect ratio of less than 5, as this is a physical property of the fibers in the resin matrix. Therefore, this feature is inherent." Applicants renew their objection to this baseless characterization, and assert that because Moghe et al. does not disclose this required element of claim 1, claim 1 cannot be anticipated by Moghe et al. Because claim 1 cannot be anticipated by Moghe et al., withdrawal of the rejection of claim 1, and of claims 5-7 and 9, which depend from claim 1, and reconsideration and reexamination of the claims, is respectfully requested.

The treatment of Claims 5 and 16 as product by process claims was addressed above, as was the rejection of claim 16, unsupported by a rejection of claim 15. Withdrawal of the rejection of claim 16, and reconsideration and reexamination of the claim, is respectfully requested.

Claims 1-2 and 7-8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Raley (U.S. Pat. No. 4,761,322). This rejection is respectfully traversed.

Raley discloses a laminated fibrous web for lining a diaper. Raley does not disclose a matrix phase, as required by claim 1, therefore claim 1 cannot be anticipated

by Raley. For the same reason, claims 2 and 7-8, which depend from claim 1, cannot be anticipated by Raley. Withdrawal of the rejection of claims 1-2 and 7-8, and reconsideration and reexamination of the claims, is respectfully requested.

Applicants renew their objection to the characterization by the Examiner of the teaching of Raley: "Using glass, carbon or Kevlar fibers in epoxy resin would produce an aspect ratio of less than 5, as this is a physical property of the fibers in the resin matrix. Therefore, this feature is inherent." The reference does not teach this.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 5-6 and 12-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Raley in view of Tatarchuk (U.S. Pat. No. 5,102,745). This rejection is respectfully traversed.

The factors critical to the success of the inventions of Raley and Tatarchuk are so diverse as to make the combination of Raley and Tatarchuk improper. Even if, however, the combination of Raley and Tatarchuk were proper, it would not reach the invention as claimed.

Neither Raley nor Tatarchuk disclose that the aspect ratio of the reinforcement structure is less than ten. This feature is not disclosed in the references, and it is not inherent. Therefore, independent claims 1 and 15 are patentable over the combination of Raley and Tatarchuk. Withdrawal of the rejection of claims 1 and 15, and claims 5-6, 12-14 and 16-18, which depend from claims 1 and 15, and reconsideration and reexamination of the claims, is respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 944-6522.

Respectfully submitted,

By: 

Donald J. Wallace
Reg. No. 43,977
Attorney for Applicant

Dated: 4/9/2003

CIMS 483-02-19
DAIMLERCHRYSLER INTELLECTUAL CAPITAL CORPORATION
800 CHRYSLER DRIVE
AUBURN HILLS, MI 48326-2757
248-944-6522